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Cotinine concentration in the serum of smokers within a representative population in Southern Germany measured in 1984/85 and 1987/88

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As part of the MONICA Study on cardiovascular risk factors conducted in Augsburg (1) serum cotinine levels were quantitated in self reported smokers and non-smokers during the examinations taking place in 1984-85 and in 1987-88. In this paper, we demonstrate in a subsample of the cohort (508 smokers) providing cotinine data at both time points, the percentage of smokers changing to cigarettes of different nicotine yields, the percentage of smokers changing number of cigarettes smoked as well as the dependence of serum cotinine levels on these parameters. Between the first examination and the second, only a small percentage of smokers reported a change of their cigarettes which moved them between low yield (<0.6 mg nicotine) and medium yield (0.7-1.0 mg nicotine) or between high yield (>1.0 mg nicotine) and medium yield cigarettes. None of the smokers reported more dramatic changes between low and high nicotine yield cigarettes. At both time points, the nicotine yield of the cigarettes did not exert a significant effect on serum cotinine levels. In contrast however, number of cigarettes smoked per day had a significant impact on serum cotinine levels. From further analysis of our data, we conclude that smokers can up or down regulate nicotine intake when they switch from their regular medium yield cigarette to cigarettes with high or low nicotine yield.

1. Keil U., Stieber J., Döring A., Chambless E., Härtel U., Filipiak B., Hense, H.-W., Tietze M., Gostomzyk J.G. (1988) The cardiovascular risk factor profile in the study area Augsburg. Results from the first Monica Survey. Acta Med. Scand., Suppl. 728:119-128

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